THE STATE JOURNAL.

OFFICIAL PAPER OF THE CITY OF TOPEKA

By Frank P. MacLennan.

TERMS OF SUBSCRIPTION.

DAILY.

DELIVERED BY CARRIER...10 CENTS A WEEK
TO ANY PART OF TOPEKA OR SUBURBS, OR AT THE SAME PRICE IN ANY KANSAS TOWN WHERE THIS PAPER HAS A CARRIER SYSTEM.
BY MAIL, THREE MONTHS..... $ .90
BY MAIL, ONE YEAR..... 3.60
WEEKLY EDITION, PER YEAR..... .50

Address, STATE JOURNAL, Topeka, Kansas.

THE FIRST PAPER IN KANSAS TO SECURE the leased wire service of the Associated Press; controls exclusively for Topeka the Full Day Service of this great organization for the collection of news. A telegraph operator in the STATE JOURNAL office is employed for the sole purpose of taking this report, which comes continuously from 7:30 a. m. till 4:00 p. m. (with bulletins of important news up to 6 p. m.) over a wire running into this office and used only for the day Associated Press business between the hours above named.

☞ The STATE JOURNAL is the only paper in Kansas receiving the Full Day Associated Press Report.

☞ The STATE JOURNAL has a regular average Daily Local Circulation in Topeka of more than all other Capital City Dailies Combined, and Double that of its principal competitor—a very creditable morning newspaper.

☞ Member of the American Newspaper Publishers' Association.

☞ The STATE JOURNAL Press Room is equipped with a Lightning Web Perfecting Printing Press—the handsomest and fastest piece of printing machinery in the state.

Weather Indications.

WASHINGTON, June 11.—For Kansas: Forecast till 8 p. m. Tuesday. Generally fair; clear in the western portion and in the eastern portion Tuesday; south winds, becoming northwest.

COXEY's term in jail ought to recommend him strongly to New York city politicians.

SUSAN B. ANTHONY's constant reference to the campaign of '67 has a kind of "Remember the Alamo" sound.

EVEN though Bill Dalton is in his coffin, it would be a good plan to shoot through it several times just to make sure.

BOSS CROKER has gone to Europe but the evil he has done was left behind on account of the small capacity of the vessel.

THE sentimental historian will probably come forward now and relate that Bill Dalton was a "good husband and kind father."

THE little town of Hartford, Lyon county, has had another prize fight, and seems to be making a determined effort to be as tough as Leavenworth.

Now that the Cripple Creek trouble is settled, Governor Waite will lead a restless, unhappy life until trouble breaks out some place else in the state.

KELLY's army is to land next at Paducah, Kentucky. If his army accepts largely of Kentucky hospitality they may yet become followers of Keeley.

IT may have been fluicky in Judge Horton of Chicago to refuse to sit on the same platform with Governor Altgeld, but it showed a wholesome self-respect.

THE Missouri river in Montana is rising and Atchison correspondents are delighted to think they will soon be able to send out word that East Atchison has fallen into the river again.

SPAIN owes this country 15,000,000 pesetas, according to a recent dispatch, but it probably won't do this government any more good than if it were Colonel Breckinridge's creditor for $15,000.

GOVERNOR LEWELLING'S butter and egg business appears to be sound, but needs watching. The governor need not worry long; after January he will be able to give it his undivided attention.

THE last official act of Governor Humphrey has just taken effect. It is to be hoped that all of Governor Lewelling's official deeds will end promptly with his retirement from office next January.

WHEN Kansas Republicans see how popular and strong the cause of silver has become even in the east and middle states, they may regret that they did not take a bold manly stand on that issue in a section that always has been, and ought to be, friendly to it.

JUDGE HORTON of Chicago says Governor Altgeld is an anarchist and he will therefore not sit on the same platform with him at the Northwestern university commencement. Perhaps after all it is only considerations of personal safety that make the judge decline.

IT could hardly be expected that the Populist police would raid the joints and clubs until after the Populist state convention. If they allowed the Republicans the free use of them, they argue that it would not only be disloyal, but unjust discrimination to prevent their own party brethren from wetting their parched throats.

THE Osage Populist county convention at Lyndon condemned severely Congressman Curtis for introducing a bill to appropriate $400,000 for the army, believing it was Charles Curtis of the Fourth district. Now it is declared that it was not Charles Curtis, but Congressman Curtis of New York, and the Populists had all their fuss for nothing. Jumping at conclusions, however, without knowing the facts is a fundamental principle of their existence.

DUG OR WASHED OUT.

PROBING THE SECRETS OF THE GEOLOGIC AGES.

A Visit to the United States Geologic Survey—Condition of the Country a Million Years Ago—Scientific Men, Instruments, Books and Maps.

[Special Correspondence.]

WASHINGTON, June 7. — Professor Charles D. Walcott, the new director of the United States geological survey, came originally from Utica, N. Y., and is a tall and scholarly looking blond, with evidences in his general aspect of plenty of open air life in his younger days. He was appointed on the national survey July 1, 1879, as assistant geologist and has risen by hard work to the place of chief. I found him in the somewhat cramped quarters of the survey near the Ebbitt House on F street, and all around him were varied and curious proofs that this was the resort of "rock sharps." There are specimens of all the stones and minerals in almost every section of the country; there are numerous maps showing the surface of the earth and rocks and the supposed waters under the earth; there are scientific instruments of many kinds and books calculated to make the unlearned man's head ache, while the walls are almost covered with drawings of those big boned monsters which inhabited this earth when it was as hot from pole to pole as central Africa now is and leathern lungs were necessary to breathe the supercarbonated air. Nor are these the ideally reconstructed monsters of Mr. Waterhouse Hawkins. They are exact drawings of the actual skeletons dug up or washed out in the great basins of the later geological ages.

In Support of Irrigation.

Some of them are very curious indeed, and by merely walking through the rooms the most unlearned in the science can get a pretty fair idea of what condition our country was in a few millions or billions of years ago. The great survey of the region commonly known as the great plains—the great survey is, merely the general view as distinguished from the minute local survey now in progress—is completed and shows this curious fact—that while one going westward from the Missouri line is constantly rising higher in topography he is going deeper in a geological basin. In other words, long after the central west was high land the ocean extended from the present gulf of Mexico far into British America, and the region just east of the Rocky mountains be-

PROFESSOR CHARLES D. WALCOTT.

came habitable land long after Missouri did. It is this which makes the possibilities of development there so great, and Major Powell's great scheme of irrigation finds strong support in the latest conclusions of this bureau. At the northern part of this region was one of the last of the great basins to be filled, and there the living creatures of that era seem to have found their last and greatest burial place. In the so called "Bad Lands" may be found thousands of tons of sharks' teeth and other marine remains, and with them the fossils of some 30 kinds of moles and almost innumerable species of crawling things. It was a display of these fossils at the Smithsonian which so excited the horror of Spotted Tail, the Indian chief, when he was here a few years ago, that he made an offer of 50 ponies to have them all returned. He declared that the Indians of Dakota would never again have good fortune, for the Great Spirit had told them not to allow those fossils to be disturbed.

Work Now In Progress.

Professor Walcott, having just taken charge of the office, has but little time to chat, but all his assistants are enthusiastic in their work and ready to explain. This is, of course, a bureau of the interior department, and there are two grand divistons of it, one of which deals only with the surface and the other with what is below it. The subdivisions are the departments of paleontology, chemistry, library, engraving, mining, statistics, illustrations and editorial. The bureau has been a matter of growth rather than of creation by a single law, so that its age can hardly be determined, but its fifteenth annual report is now in type and will be ready for the public by the close of the current fiscal year. The most practical work now in progress is the preparation of maps in the topographical department, and, by the way, the maps now published for use in the schools of New York were made up from the recent charts of this division. After looking over the minute charts representing the survey by townships in the valley of the Hudson I am compelled to conclude that if the scale there set is to be followed all over the United States it will be a work of 40 years or more unless the force be very greatly increased.

Connected with the topographic is the art division, in which the largest photographs now made are produced. All this, be it understood, has nothing to do with geology proper, but the maps, or rather charts, show by fine lines the elevation of every mile wide of the surface and are in great demand by the design-

ers of railroads, canals, wagon roads, reservoirs and drainage systems. Professor Henry Gannett is chief of the eastern division of this work and Professor A. H. Thompson of the western. "This topographic map," says Professor Gannett, "is a necessity for accurate geological survey. We begin by locating a number of points in the areas under survey and then draw the lines, sketching the topography as it rises or falls from these located points. This is, however, only the universal method of surveying and preparing maps. The cost varies widely. The most expensive work is that done on the mile scale in the northeastern states, where it averages about $10 per mile. On the great plains in Kansas, Nebraska and the Dakotas it costs less than a third as much, and averaging the cost on all the scales for the whole United States year after year it is about $5 per square mile. You can see how very little work is required to present the variations of level on this chart for a section of South Dakota. Leaving out Alaska, the work for the whole country will cost about $15,000,000, which is as expensive as congress is in the humor to authorize at present. The work has now been in progress 12 years.

Uses of Maps.

"The amount of money wasted for want of such maps has been enormous. It is certain that in the matter of railroad building alone the loss has been many times greater than the cost of this entire survey. In the large map you see that the scale is four miles to an inch, but this will not do for economic purposes, and so we have two other scales—the densely settled portions of the country on the scale of one mile to an inch and other sections at two miles. These lines present at a glance the relief of the country, hills, valleys, mountains and canyons, each successive line showing the increasing height above sea level, so where the slope is steep these lines are very close, and where it is gentle they are far apart, and any observer can see the slope at a glance. The map is drawn in sheets 17½ inches long and from 12 to 15 inches wide, each sheet upon a two mile scale, and therefore comprising an area of half a degree in latitude by half a degree in longitude, and so the width of the map must be greater as we go toward the south."

Major Powell's Grand Work.

It was in Utah in the summer of 1869 that I first met Major Powell and felt the contagion of his enthusiasm. He had made his first trial at the Grand canyon of the Colorado and was full of schemes for the survey of all that part of the great river's valley north of the Arizona line, a survey since largely completed. About 100,000 square miles of the Colorado basin are now as familiar to geologists as most of the area of the older states, and scores of mining camps are located where then only the Mountain Utes roamed, save when the white hunters went there in the autumn for deer and other game and an occasional encounter with cinnamon bear and mountain lion.

John Wesley Powell, son of a Methodist preacher, is a native of Mount Morris, N. Y., and became a teacher of geology and enthusiastic explorer while yet in his college course. He enlisted among the first in Illinois and left a right arm at Shiloh—a loss which laid the foundation for occasional troubles ever after and has finally caused him the great suffering of which all lovers of science have been sorry to hear. As professor of geology he went with his class—of Bloomington, Ills.—to Colorado in 1867 and there conceived the grand scheme with which his name is so brilliantly connected. The surveys he began continued till 1874 and were at first under the direction of the Smithsonian institution, but the matter grew to a separate department, and in 1879 this bureau was formally organized and Clarence King made director. In 1881 he gave place to Major Powell, who now gives place to Professor Walcott.

Three years after meeting Major Powell I crossed northern Arizona with a band of Navajo Indians to the mouth of Pahreah creek, in the Colorado canyon, finding there the cache of the Powell expedition's boats and supplies and at Kanab found Professor Thompson in charge of the work. To meet such people in the remote wilds, as that country then emphatically was, is one of the most delightful experiences in the life of a rambler. In those days the once notorious John D. Lee was the only white man resident in all that region, but the Powell survey was followed soon by an army of prospectors, and many millions of dollars have already been added to the wealth of the country by the leadings of science there. Professor Walcott also began his work for the United States in southern Utah in 1879, and there could scarcely be a better place, for there is precious little there except rock. In 1882 he surveyed the Eureka district in Nevada.

Indebtedness to Mormons.

John D. Lee, whose retreat was then in the deep canyon at the mouth of Pahreah creek, seemed to know the whole gamut of Indian nature by a sort of instinct, spoke the tongues of all the tribes in that vicinity and was a man of great influence among them. Next to him in familiarity with Indian affairs was Jacob Hamlin, a Mormon elder of Kanab, at whose house I met Professor Thompson and lady and some of their employees in 1872. Major Powell acknowledged his great indebtedness to these two pioneer Mormons, and his enthusiasm in the study of Indian affairs was catching. He had already laid out an extensive outline of studies to be made of the movements of Indian tribes and was one of the first to show how rapidly the general characteristics of tribes are changed by their long extended movements and change of climate and habits. Of the Utes, Navajoes and those branches of the Pueblos which are located in northern Arizona he had already made a study and formed a very clear and consistent theory of their development and the causes of their differences from other Indians.

J. H. BEADLE.

PROVOST PEPPER'S SUCCESSOR.

Charles C. Harrison Honored by the University of Pennsylvania.

When Charles C. Harrison recently consented to temporarily fill the office of provost of the University of Pennsylvania, made vacant by the resignation of Dr. Pepper, it was upon the distinct understanding that he should be allowed to retire as soon as the trustees could agree upon another suitable man for the position. The trustees, however, hope that if Mr. Harrison does not find the duties of the position too onerous his love for the university may induce him to retain it permanently, and in this hope the trustees are heartily seconded by the faculty, the alumni, the students and by all Philadelphians interested in the welfare of the university.

CHARLES C. HARRISON.

Mr. Harrison has been one of the university trustees for a long time and has been chairman of the ways and means committee of the board since 1886. He was formerly the senior member of the sugar refining firm of Harrison, Frazier & Co. and since his retirement from active business several years ago has devoted most of his time to advancing the interests of the university. He has been a liberal benefactor of the institution, and recently he and his two brothers endowed the John Harrison laboratory of chemistry in honor of their grandfather, who was one of the pioneer chemists of Philadelphia.

Born in Philadelphia May 3, 1844, Mr. Harrison received his early education at the Episcopal academy. He entered the university in 1858 and was a classmate of Dr. Pepper, the retired provost, of whom he has ever since been a close friend and adviser. They graduated in 1862, Mr. Harrison being the honor man of the class and receiving the Henry Reed prize. Whether he retains the provostship or not, Mr. Harrison has announced his desire to devote the remainder of his life to the service of his alma mater.

The resignation of Dr. Pepper was caused by the fact that the duties of provost had become so onerous that he had to give up the position or retire from his medical practice. He will still retain his professorship and take an interest in the university's affairs. With his letter of resignation Dr. Pepper sent the trustees his check for $50,000 as a contribution toward the new wing of the hospital.

SELECTIONS

PUMPING COAL TO MARKET.

The Scheme Embodies a Plan For Handling Coal In the Form of Dust.

A leading engineering journal makes out a good case for the scheme of pumping coal to market and favors the idea that it will be adopted for practical working. The system embodies the reduction of all coal at the mines to the form of impalpable dust at a cost of 3 to 5 cents per ton; the separation from the coal by one of the present washing processes of all free sulphur, pyrites, slate, etc., at the cost of another 5 cents per ton; the mixture of the coal powder with about its own weight of water, thus converting it into a sort of black milk and the pumping of it in that state to any desired market, as oil now is pumped.

When the mixture has arrived thus far, it is deprived of most of its water in great settling basins, but as much as 8 to 10 per cent of the fluid is left in the mixture, which in that state is pumped short distances only to points of consumption, where the remainder of the water may be dried out by the otherwise waste heat. The capacity per day of 24 hours of a 24 inch pipe, with a mean speed of five miles per hour, is about 31,000 long tons, taking the coal conveyed at 351 pounds per cubic foot of mixture.

At 1,200 pounds pressure for pumping stations 30 miles apart a 4 inch pipe would carry 320 tons daily; an 8 inch pipe, 1,824; a 12 inch pipe, 5,120. The total coal consumption of New York city averages considerably under 25,000 tons per day; the New England states burn about 50 per cent more than this; the whole United States, nearly 20 times as much, in round figures, so that comparatively few pipes would suffice to handle the whole coal supply of the country. The evaporation of the water from the coal dust presents no serious difficulty.

This system opens up again the question of the comparative value of coal dust for fuel. While in many cases coal dust is commercially valueless, in others it cannot be replaced by any other form of coal for real services—for instance, in the manufacture of fuel or other gas, the making of stiff coke, the mixing with iron ore dust before coking, to the great improvement of the product both in quantity and quality; the remedying of the smoke nuisance, as the dust mixed with air is blown into the furnace, and the maximum combustion is secured, and generally wherever coal is burned merely to generate heat in properly designed combustion chambers. The inventor of the pipe conduction of coal claims, and apparently with good reason, that it effects a great saving in cost of transmission.—Pittsburg Dispatch.

A Blizzard Victim's Struggle For Life.

The body of J. M. Hershaw, who was lost in the blizzard, has been recovered, and the position of the body and other evidences show a desperate struggle for life.

Mr. Hershaw went to town for oil and was within 80 rods of his home when the blizzard overtook him. Not being able to make headway against it, he drifted south with the storm and crossed the graded road, expecting to find a wire fence which led up to a tree claim with a house on it. His tracks show that he missed the end of the fence by only a few feet, which in such a storm was as good as a mile, as no living being could be exposed to the fury of such a storm 10 minutes without having his face completely covered with a frozen sleet which would shut out from view a building within five feet.

Mr. Hershaw was found upon a plowed field six miles from home, lying down, with the oil can between his legs and blood on the point of the can spout, caused by rubbing his forehead in his desperate efforts to remove the frozen snow from his face.—Hamilton (N. D.) Dispatch.

Training Thoroughbreds In Harness.

Nearly all successful trainers of the thoroughbred have in the course of long experience developed some methods peculiarly their own, but it has been reserved for Mr. J. E. Cushing, owner of Boundless, winner of the $30,000 American Derby of 1893, to advocate the theory of driving the running horse to a sleigh in the winter months. Mr. Cushing states that he has adopted this method of training with all the good horses he ever owned. He practiced it last winter with Boundless at Minneapolis, when the sup-

of Harry O'Fallon was daily given long journeys over the country roads harnessed to a sleigh. Mr. Cushing claims that his plan enables the trainer to give his horse enough exercise to keep the muscles hard and firm without having to carry any weight. Thus pressure is taken off the tendons of the legs, and the snow, too, forms a cushion for the feet similar to that afforded by the ordinary covered straw track. Mr. Cushing was an engineer a few years ago and is one of the accidental developments of the running turf.—Spirit of the Times.

Only Rich Men Can Be British Officers.

What the demands upon the private means of a cavalry officer really amount to was strikingly shown the other day by an excellent article in The Army and Navy Gazette. The initial outlay was here put at £900 and the annual expenditure at £700, and these totals were supported by full details of regimental and personal expenses. Who can wonder that almost every Gazette tells the tale of young cavalry officers cutting the service, regardless of the money they have sunk, as soon as they realize what the position means, or that the difficulty of keeping up the supply of officers is constantly increasing, notwithstanding the fact that the entrance standard for the cavalry is now below that of any other branch of the army? Unless it is desired that the British cavalry shall eventually be officered exclusively by the class which has money and no brains, some drastic measures will need to be taken without delay to curtail the demands on cavalry officers' purses.—London Truth.

Philosophical Tidbits.

This is the season of the year when the loafer tells of how many cords of wood he split in the winter. In the winter he tells how many tons of hay he raked in the summer.—Atchison Globe.

"This is not a woman's sphere," remarked the lady baseball player at short-stop as she got out of the way of a redhot liner.—Brooklyn Life.

If it wasn't for his vaulting ambition, the professional acrobat could never hope to achieve much of a success.—Buffalo Courier.

It is true that times have been very hard indeed. But it is difficult to perceive just how the summer girl is going to economize in her bathing suit.—Washington Star.

It does not necessarily follow when a man has his picture taken with a guitar that he can play.—Atchison Globe.

A lady having remarked in company that she thought there should be a tax on "the single state," "Yes, madam," rejoined an obstinate bachelor, "as on all other luxuries."—Tit-Bits.

The old sinner who sings "Just as I Am" will get up and talk for half an hour to make people believe he is somebody else.—Plain Dealer.

An Atchison doctor was held up by a highwayman last night, thinking to reap a harvest. But before they parted the doctor had convinced the highwayman that he needed vaccinating and had coaxed a dollar out of him.—Atchison Globe.

Samson brought down the house, but nobody called for an encore.—Texas Siftings.

"My wife has persuaded me to go to church with her Sunday." "Pleasant dreams, old man."—Life.

Carrie—I don't care. Emily looks worse than I do. Maud—Come, dear, don't be unmerciful.—Boston Transcript.

"Do you think my verse good?" asked a young poet of Douglas Jerrold. "Good, my dear boy!" was the enigmatic reply. "Good is not the word!"—Youth's Companion.

"I just saw two Irishmen having a difference as to the respective shapes of their heads." "How did they settle it?" "They agreed to split the difference and were taken to the hospital."—Hallo.

The first time a man ever plants a flower garden you can't persuade him for awhile that the florist hasn't swindled him by selling him the germ materials for a lot of weeds—Somerville Journal.

"Dublin is a dead city," wrote an Irishman many years ago. "Nothing is stirring in it but stagnation."—Youth's Companion.

A Kensington woman who suffers from kleptomania says she has taken about everything for it.—Philadelphia Record

Every man should try to live so that the world will not be made very much better by his getting out of it.—Galveston News.

Wife (tearfully)—You have broken the promise you made me. Husband (kissing her)—Never mind, my dear. Don't cry. I'll make you another.—Spare Moments.

It is surprising how much we will take from a rich uncle—if we can get it.—Syracuse Courier.

A.—Hello, Charlie! Mustache cut off, I see. What did you have that done for? B.—Fifteen cents.—Harvard Lampoon.